

**Important Migrant and Wintering
Bird Concentration Areas of
Western Placer County**

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Important Migrant and Wintering Bird Concentration Areas of Western Placer County

Introduction

Located strategically on the Pacific Flyway and hosting a range of suitable habitats, western Placer County is a critical migratory stopover and wintering area for waterfowl, raptors, and shorebirds. Several private organizations, agencies, and joint ventures, such as the American Basin Central Valley Habitat Joint Venture, Ducks Unlimited, and the California Waterfowl Association, are concerned with widespread habitat loss associated with development and agriculture. However, these organizations focus primarily on waterfowl.

As part of its countywide Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) and the Placer Legacy project, the Placer County Planning Department is developing conservation strategies to protect the natural communities and special-status wildlife species found in the Phase 1 Planning Area (Phase 1 Area). Accordingly, baseline information on the current status and use of existing wetlands, grasslands, and agricultural areas is necessary to define and delineate Important Concentration Areas (ICAs) used by birds in the Phase 1 Area. Jones & Stokes biologists defined ICAs as wintering or migration stopover areas that are used by concentrations of birds for roosting, resting, and foraging. Each ICA was defined as a single land cover type.

This study of the important migrant and wintering bird concentration areas focused primarily on abundant and common bird species; surveys for covered and other special-status species were not conducted as part of this task. The study was intended to supplement the intensive mapping of individual watersheds and focused surveys for covered species that are being conducted concurrently by Jones & Stokes as part of the HCP/NCCP process for the Phase 1 Area. The primary goals of this study were to: (1) summarize existing information from the National Audubon Society's annual Christmas Bird Counts (CBCs), (2) contact local bird experts from the Sierra Foothills Audubon Society and the Sacramento Audubon Society and review their field notes from the Phase 1 Area, (3) conduct reconnaissance-level surveys, and (4) identify the key locations in the Phase 1 Area that are used by thousands of migrant and wintering birds each year.

Location

Placer County is long and narrow, extending from the floor of the Central Valley over the Sierra Nevada crest to the Tahoe Basin and the Nevada state line. The Phase 1 Area covers the portion of Placer County from the city of Auburn west to the Sutter, Sacramento, and Yuba County lines; it encompasses about 270,000 acres (Figure 1). Most of the ICAs identified in the surveys were located in the Central Valley portion of the Phase 1 Area.

Methods

Data Sources and Field Surveys

To identify ICAs, Jones & Stokes staff ornithologists conducted interviews, circulated questionnaires, and performed literature and Internet searches for specific information on migrant and wintering birds in the Phase 1 Area. The results of this survey and identification of ICAs were not derived from statistically valid, long-term field surveys. Instead, information on bird populations and their relationships to land cover types was compiled from the personal observations of Ted Beedy, Todd Easterla, Ed Pandolfino, John Sterling, Bruce Webb, and William Widdowson. Jones & Stokes biologists also conducted a thorough review of Placer County bird checklists and other information resources (Williams 1996; Webb 2003a, 2003b.) Jones & Stokes biologist John Sterling participated in the Lincoln CBC on December 28, 2002. Jones & Stokes staff scientists interviewed and conducted field visits to all of the ICAs with local bird experts Todd Easterla and Ed Pandolfino.

In general, the reliability and repeatability of CBC data are limited because these counts are taken only 1 day per year. The actual counts in any given year can be affected by the survey routes taken in different years, weather conditions on count day (affecting both observers and birds), daily variation in species distribution, expertise of observers, and other factors. Similarly, the December/January count period does not permit any assessment of spring or fall migrant activity or of the breeding birds in an area. Because all these factors introduce variability into the data, CBC data are used here only for comparative purposes for those years for which data sets are available. Although these counts are published annually by the National Audubon Society, they are not intended to represent exact counts of any species or year. For example, a CBC count of 17 Rough-legged Hawks one year and a count seven Rough-legged Hawks the following year do not indicate a decline in the species. However, when gathered over a period of years using more standardized point-count methods (e.g., the Lincoln CBC), these data can be very useful for assessing long-term trends in wintering bird populations. None of the ICAs identified in this report were based solely on CBC data from single counts or years. Rather, this study used the CBC as a supplemental data source to confirm the qualitative observations of local experts who have visited all of these areas at least annually for the past 20 years.

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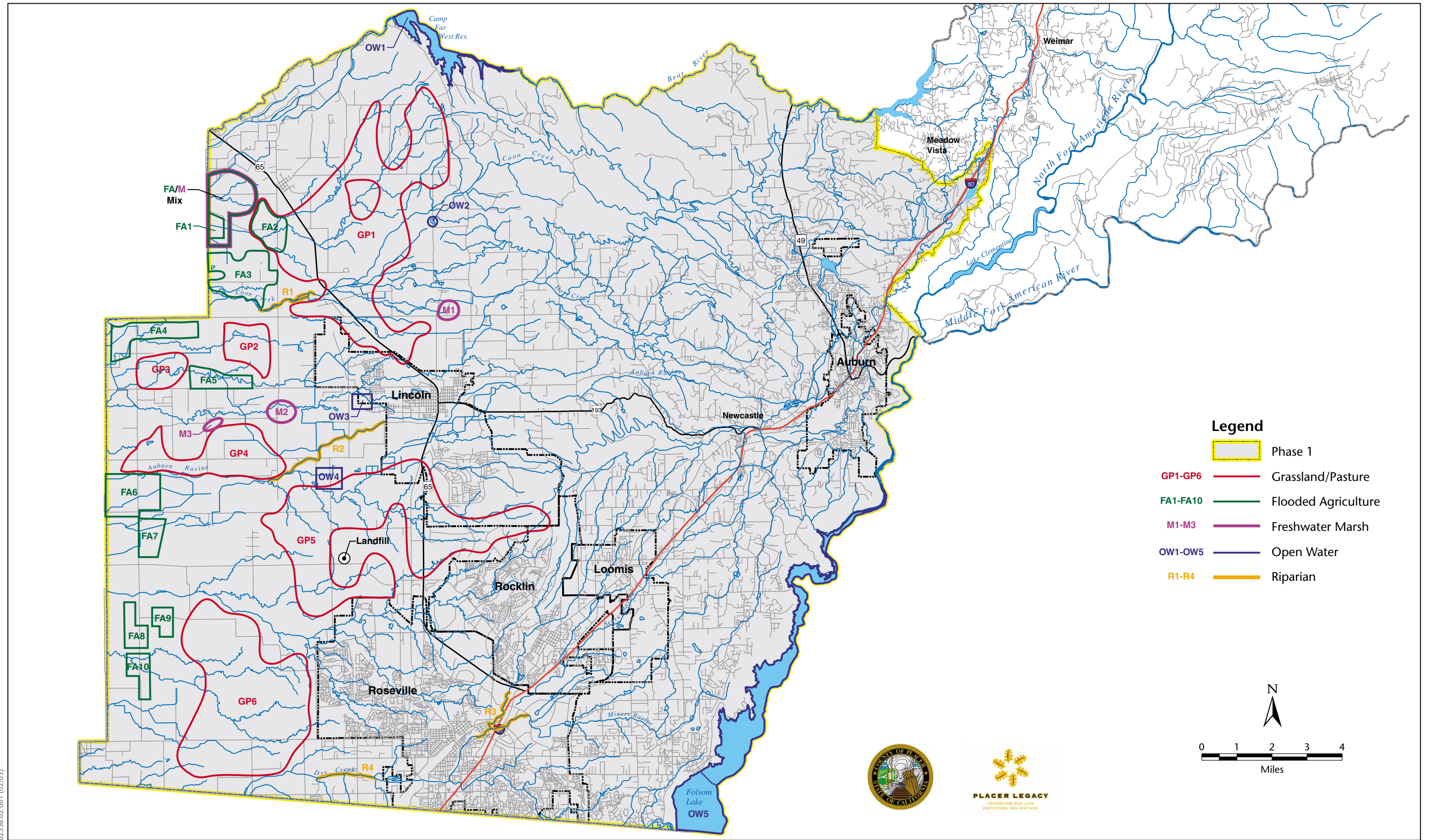


Figure 1
Important Concentration Areas for Wintering and Migratory Birds,
Placer County Habitat Conservation Plan/Natural Community Conservation Plan, Phase 1 Planning Area

Field surveys were conducted throughout the entire Phase I Area at a reconnaissance level and concentrated on verification of the accumulated information and ICA locations. Two initial site visits were conducted by Ted Beedy, William Widdowson, John Sterling, and Todd Easterla on December 13, 2002, and January 30, 2003. Jones & Stokes biologists conducted follow-up field visits periodically throughout February, March, April, and May 2003 (Table 1). Finally, a review was conducted of published literature as well as of Jones & Stokes field notes and file data compiled over more than 20 years of bird surveys in the Phase 1 Area.

Bird Guilds

For this report, bird species have been categorized as members of *guilds* primarily by habitat preferences, foraging methods, and morphological/behavioral characteristics. These guilds are waterbirds, waders, shorebirds, gulls and terns, raptors, terrestrial landbirds, and arboreal landbirds. Each land cover type supports several guilds (Table 2).

Guilds were selected for analysis based on the presence of relatively large populations during fall and spring migrations and during the winter months. Many of these species are common and widespread in large areas of California and/or North America. For the purposes of this survey, the local scale is defined as the Phase 1 Area, and the regional scale is defined as the area encompassed by Sutter, Yuba, Placer, El Dorado, and Sacramento Counties. The scale of importance for selected guilds and species is addressed in the discussion of each ICA land cover type. ICAs were identified and mapped if they were known to historically or presently support significant numbers (i.e., thousands or tens of thousands) of wintering and/or migratory birds annually.

This analysis did not include introduced species (i.e., Wild Turkey, European Starling, House Sparrow); out-of-range species (i.e., eastern warblers); species with foraging and nesting habitat beyond the scope of this project (i.e., White-throated Swift); or year-round resident species that do not congregate at any specific locations during the winter.

The following sections provide discussions and definitions of guilds used in the analysis. The relative importance of the region for each guild is illustrated by a comparison of CBC data from the Lincoln area to nearby counts in Sacramento, El Dorado, and Yuba Counties (Table 3).

Results

Data from the 1994–2002 Auburn, Marysville, and Sacramento CBCs and the 2002 Lincoln CBC (National Audubon Society 2003) were summarized (Appendix A). A list of species that are known to occur in the ICAs of the Phase 1 Area, including scientific names, seasonal status, habitats and guild associations, is provided in Appendix B. Individual ICAs are listed and

Table 1. Site Visits Conducted for ICA Phase 1 Planning Area

Date of Site Visit	Personnel
13 December 2002	<i>Initial Visit</i> – John Sterling, William Widdowson
27 December 2002	John Sterling
6 January 2003	John Sterling
22 January 2003	John Sterling
27 January 2003	John Sterling
30 January 2003	Ted Beedy, William Widdowson, Todd Easterla, John Sterling
3 February 2003	William Widdowson
24 March 2003	William Widdowson
28 March 2003	William Widdowson
29 March 2003	William Widdowson
31 March 2003	John Sterling
1 April 2003	Doug Leslie
2 April 2003	Doug Leslie
3 April 2003	Doug Leslie, John Sterling
4 April 2003	Doug Leslie, John Sterling
9 April 2003	Doug Leslie
10 April 2003	Doug Leslie
11 April 2003	Doug Leslie
12 April 2003	William Widdowson
15 April 2003	William Widdowson
3 May 2003	John Sterling
4 May 2003	William Widdowson
5 May 2003	Doug Leslie, John Sterling

Table 2. ICA Landcover Types, Acreage, and Use by Bird Guilds in the Phase 1 Planning Area

Landcover Type	Acreage	Waterbirds	Shorebirds	Waders	Gulls and Terns	Raptors	Terrestrial Landbirds	Arboreal Landbirds
Open Water (reservoirs, ponds)	2,071	Yes	Limited	Limited	Yes	Limited	No	No
Marsh	474	Yes	Limited	Yes	Limited	Limited	Yes	No
Flooded Ag. (rice fields)	6,075	Yes	Yes	Yes	Yes	Yes	Yes	No
Vernal Pools	n/a	Yes	Yes	Limited	Limited	Limited	Limited	No
Grassland/Pastures	32,629	No	No	Limited	Limited	Yes	Yes	No
Riparian	n/a	No	No	Nesting only	No	Yes	Limited	Yes
Total ICA Acres	42,364							

Table 3. Comparison of Mean Numbers of Birds Seen in each Bird Guild during Placer County and Nearby Christmas Bird Counts since 1994

Guilds	Lincoln 2002	Auburn 1994–2001	Folsom 1994–2001	Marysville 2000–2001	Sacramento 1994–2001
Waterbirds	30,386	4,316	6,344	63,585	69,350
Shorebirds	7,404	181	304	1,779	4,769
Waders	508	45	108	2,286	1,951
Gulls and Terns	1,451	34	28,283	479	7,310
Raptors	827	226	430	480	883
Terrestrial Landbirds	46,484	4,566	7,233	16,938	125,339
Arboreal Landbirds	5,862	6,724	10,841	7346	18,270

characterized in Appendix C. General discussions of the individual bird guilds and the ICAs identified are provided below.

Bird Guilds

Waders

Many of the waders that frequent the Phase 1 Area are birds that breed elsewhere, although a few Great Egret, Black-crowned Night-Heron, and Great Blue Heron rookeries are present along Coon Creek, along a pond east of Sheridan, and probably elsewhere in the Phase 1 Area. Waders forage in wetlands such as flooded rice fields, wet pastures, alfalfa fields, and other agricultural lands that support populations of rodents, reptiles, amphibians, macroinvertebrates, and other prey. They can on occasion congregate in large numbers at drying pools, which concentrate fish, or during flood events, which may bring prey items above ground.

Waterbirds

Large flocks (thousands) of waterbirds forage in flooded rice fields, farm ponds, sewage ponds, and reservoirs within the Phase 1 Area. Waterbirds can be further split into two subguilds: dabblers and divers. This division is based broadly on foraging behavior and water depth preferences of each subguild. Divers such as loons, grebes, cormorants, and bay ducks require deeper pools and ponds to accommodate benthic and water column foraging. Dabblers such as swans, geese, dabbling ducks, and coots use shallower wetland areas and flooded fields. Most waterbirds use open water areas after the hunting season is over, and large concentrations (i.e., >10,000 individuals) of species such as Northern Pintail congregate in flooded rice fields of the Phase 1 Area (Appendix C, FA 1–10) prior to spring migration (Miller pers. comm.). Although dabblers and surface-feeding waterfowl are typically found using shallower water bodies, they also forage at the edges of deeper areas and can be found loafing in deeper areas or on islands and banks. While the broad characterization of the two subguilds addresses general habitat preferences, birds from both can often be found together in the same areas.

Raptors

Most raptors in western Placer County concentrate in grasslands and non-flooded rice fields, where they forage on the abundant rodent prey. The Phase I Area supports breeding populations of Swainson's Hawk, White-tailed Kite, Northern Harrier, Cooper's Hawk, Red-tailed Hawk, Red-shouldered Hawk, and American Kestrel. However, these populations are augmented by the annual influx of migrating and wintering individuals. Species such as Bald Eagle, Ferruginous Hawk, Rough-legged Hawk, and Merlin are strictly winter visitors in the Phase I Area. The relative importance of the Phase I Area to wintering raptor

populations is illustrated by the results of the 2002 Lincoln CBC. The total of 827 raptors is the fourth highest count of more than 1,800 North American CBCs conducted during the previous year (CBC data reanalyzed contra analyses by Pandolfino pers. comm.).

Seven pairs of Swainson's Hawks were identified by the California Department of Fish and Game during 2001 field surveys in the Phase 1 Area, but this species is a long-distance migrant that winters in Mexico and northern South America. Accordingly, the observation of 1–2 individuals near Lincoln during December 2002 and January 2003 was very unusual (Pandolfino pers. comm.; Sterling pers. obs.).

Several raptor species that regularly occur in the Phase 1 Area are special-status species: Bald Eagle (federally listed as threatened and state-listed as endangered), Golden Eagle (federally protected under the Bald and Golden Eagle Act), White-tailed Kite (fully protected under California Fish and Game Code Section 3511), Ferruginous Hawk (California species of special concern), Swainson's Hawk (state listed as threatened), Peregrine Falcon (state listed as endangered), Short-eared Owl (California species of special concern) and Burrowing Owl (California species of special concern). All nesting raptors are also protected under the California Fish and Game Code.

Shorebirds

Shorebird populations are thought to be limited by the availability of winter food resources (Baker and Baker 1973). The great majority of shorebirds using the Phase 1 Area are either migrants or wintering birds that breed elsewhere and spend the winter months foraging and roosting on the flooded fields and seasonal wetlands in the Phase 1 Area. During winter, the flooded rice fields along Brewer Road have supported large numbers of Killdeer (hundreds), Greater Yellowlegs (150+), Long-billed Curlew (175+), Dunlin (6,000+), Least Sandpiper (hundreds), Long-billed Dowitcher (175+) and Wilson's Snipe (50+) as indicated by the 2002 Lincoln CBC results. During the fall migration that begins in late June, flooded organic rice fields provide prime habitat for a wide variety of shorebird species, including an extraordinary 14 species in a single day in August 2002 (Pandolfino pers. comm.).

Gulls and Terns

Three major gull foraging and roosting sites occur in the Phase 1 Area: Folsom Lake, Camp Far West Reservoir, and the local landfill facility. The largest concentrations occur on the western edge of Folsom Lake, where 70,000–100,000 gulls can be counted as they come in to roost. The timing of the annual steelhead and salmon run on the lower American River in conjunction with cold temperatures in Washington and Oregon usually cause gull numbers at Folsom Lake to peak during the winter months. Additionally, more coastal gulls may now move inland due to dump cover-over policies in the San Francisco Bay Area. Prior to the closure of the Folsom Dam overlook in early 2001, up to

approximately 1,000 gulls per minute could be seen passing over the surrounding 0.5 mile of Folsom Dam in the late afternoon. These flights may last for up to 2 hours (Webb pers. comm.). Gull numbers recorded on Folsom Lake during CBCs vary widely and ranged from about 130,000 in 1995 to about 2,000 in 2000. During a field visit on 30 January 2003, Jones & Stokes biologists observed 25,000–30,000 gulls from the Beale's Point parking lot, with more drifting in as the sun went down.

Camp Far West Reservoir hosts small numbers of gulls and terns in the winter, but rarely in large concentrations. Forster's Tern and Caspian Tern can occasionally be found there, but not consistently, and only in small numbers (Pandolfino pers. comm.). The regional landfill (Western Regional Sanitary Landfill and Recovery Facility at 3033 Fiddymment Road in Roseville) is an attractive foraging and daytime roosting area for large numbers of gulls. During a field visit on January 30, 2003, Jones & Stokes biologists observed approximately 300 gulls feeding on an active section of the landfill. Gulls also congregate in flocks of up to several hundred at the old Lincoln Sewage Ponds, in flooded rice fields, and in recently plowed fields throughout the Phase I Area.

Arboreal Landbirds

The species in this guild are confined to land cover types with trees. In the Phase 1 Area, arboreal landbirds are mostly found in oak and riparian woodlands. In the Central Valley portion of the Phase 1 Area, they are concentrated primarily in riparian areas, including valley oak woodlands. Riparian and valley oak woodland specialists include Nuttall's Woodpecker, Hutton's Vireo, Western Scrub-Jay, White-breasted Nuthatch, Oak Titmouse, and Orange-crowned Warbler.

Terrestrial Landbirds

The species in this guild are associated with agricultural areas and grasslands. Flocks of hundreds and sometimes thousands of Horned Lark, Brewer's Blackbird, Red-winged Blackbird, Tricolored Blackbird, Western Meadowlark, and Savanna Sparrow forage in a variety of agricultural fields, especially row crops (rice, wheat, hay, and alfalfa). These wintering birds forage on waste grain and/or invertebrates. A few of these species, such as Spotted Towhee, White-crowned Sparrow, and Golden-crowned Sparrow, depend on fencerows and brushy field edges for cover.

Important Concentration Areas

Jones & Stokes biologists delineated the ICAs as polygons on a map of the Phase 1 Area (Figure 1) in the following categories of land cover types: Open Water (five ICAs); Marsh (three ICAs); Flooded Agriculture (10 ICAs); Grassland/Pasture (six ICAs); and Riparian (four ICAs). Although vernal pools were not

mapped as distinct polygons, they are included in Table 2 because they provide a distinct set of habitat characteristics that are used by some guilds. Individual ICAs are listed and characterized in Appendix C.

Polygons were derived by summarizing of all information collected from interviews, field visits, and literature searches. The polygons were originally drawn onto a Phase I Area map, and hand-digitized to obtain acreage estimates (Appendix C). The ICAs are subject to change; for various reasons, given ICAs may not support large numbers of birds in some years. An area of apparently perfectly suitable shorebird habitat may go unused while a similar area in an adjacent field may be teeming with shorebirds (Pandolfino pers. comm.). Consequently, Figure 1 should be considered a snapshot of what is in fact a highly dynamic system; for example, some areas not identified in this report as concentration areas could be used in the future by large numbers of species of various guilds. Similarly, areas identified as ICAs could support limited use in subsequent seasons.

Open Water

Open Water ICAs are limited in the Phase 1 Area to created wetlands such as farm ponds, sewage treatment ponds, and reservoirs. Water levels fluctuate greatly at Camp Far West Reservoir (OW 1); during fall 2002, the low water level greatly reduced the number of waterbirds and gulls using this ICA. Folsom Lake (OW 5) consistently harbors tens of thousands to hundreds of thousands of roosting gulls each winter, as well as large numbers (thousands) of waterbirds, especially Western Grebe and Clark's Grebe. The old Lincoln Sewage Ponds (OW 3) consistently harbor hundreds of waterbirds and gulls, and as the new Lincoln Sewage Ponds (OW 4) develop, they may support even larger numbers of these birds (Pandolfino pers. comm.).

Marsh

Marsh ICAs are both small and few in the Phase 1 Area. These marshes change in area within and between years due to changes in seasonal and annual rainfall. They provide important roosting cover for thousands of blackbirds. The marsh at M 2 harbored about 600 roosting blackbirds during the Lincoln CBC.

Flooded Agriculture

The attractiveness of flooded agricultural fields to waterbirds, wading birds, and gulls is dynamic: that is, it depends on rainfall and on site-specific flooding cycles and management practices.

Observations of local bird experts Ed Pandolfino and Todd Easterla and of S. Scheidel, a local organic rice farmer, suggest that many waterbirds may be more attracted to organic rice fields than to conventionally managed rice fields, but this

needs further study. A comparative study of bird use between conventional farms (using fall and spring tillage and pesticides), minimum-tillage farms (using reduced tillage), and organic farms (using zero synthetic pesticides) in southeast North Dakota showed little or no difference in fall and winter bird use (Lokemoen and Beiser 1997). However, results of a similar study in Nebraska suggested that organic cropland sustained a greater abundance (2.6 times higher than conventional) and species richness (2.0 times higher than conventional) of birds across foraging and migratory guilds, and that organically farmed fields provided a larger resource base for birds (Beecher et al. 2002).

Alternative management practices probably have the greatest affect on waterfowl, grassland passerines, and shorebirds, three avian groups that have shown declines in recent years (Robbins et al. 1986). During the winter months, especially after the waterfowl-hunting season, large flocks of waterfowl forage in flooded rice fields (organic and conventional) and, to a lesser extent, in restored and natural marshes and ponds in the FA/M mixed ICA west of Sheridan. These shorebird and waterbird concentrations attract raptors, especially Northern Harrier, Peregrine Falcon, and Bald Eagle. When not flooded, rice fields may also attract hundreds of raptors that prey on rodents, including White-tailed Kite, Northern Harrier, Red-tailed Hawk, American Kestrel, and Short-eared Owl.

Grassland/Pasture

Grassland/Pasture ICAs are larger than any of the wetland ICAs in the Phase I Area. The grasslands and pastures are important for raptors and terrestrial landbirds in providing the large expanses of habitat needed to support their wintering populations. Foraging waders, shorebirds, and gulls are attracted to these ICAs when prey is readily available, particularly when it is concentrated by occasional flooding or disking. Although several of the ICAs contain vernal pool complexes that provide ephemeral and limited habitat for a few species of shorebirds, waders, and waterbirds, such complexes are not nearly as important to these birds as rice fields and marshes. However, American Avocets will nest in alkali meadows and grasslands adjacent to vernal pools (Silveira 1998).

CBC data document the importance of Phase 1 Area grasslands, agricultural fields, and pastures for supporting large wintering populations of raptors. However, the existing CBC dataset is limited in that it only covers 15-mile-diameter circles and omits many potentially important habitat areas in the Phase 1 Area. Based on the limited survey information that was available, the Phase 1 Area does not support abnormally large raptor populations compared to other, similar locations in the eastern Central Valley. However, it is clear that raptor populations supported by these ICAs are indicative of the national importance of grasslands throughout the Central Valley for raptors.

Riparian

Riparian ICAs provide habitat for arboreal landbirds in the otherwise nearly treeless Central Valley section of the Phase 1 Area. These ICAs are important

migration stopover sites for Nearctic and Neotropical migratory songbirds. Flocks of hundreds of migrating songbirds have been observed along Auburn Ravine (R 2) during storm-related “fall-outs” in September (T. Easterla pers. obs.). Some typical Neotropical migrants that use riparian corridors are Dusky Flycatcher, Townsend’s Warbler, Hermit Warbler, and Black-headed Grosbeak. Riparian ICAs also provide important nesting habitat for raptors such as Cooper’s Hawk, Red-tailed Hawk, Red-shouldered Hawk, Swainson’s Hawk, and Great Horned Owl.

Sources

References

- Baker, M. C., and E. A. M. Baker. 1973. Niche relationships among six species of shorebirds on their wintering and breeding grounds. *Ecological Monographs* 43:193–212.
- Beecher, N. A., R. J. Johnson, J. R. Brandle, R. M. Case, and L. J. Young. 2002. Agroecology of birds in organic and nonorganic farmland. *Conservation Biology* 16 (6):1620–1631
- Lokemoen, J. T., and J. A. Beiser. 1997. Bird use and nesting in conventional, minimum-tillage, and organic cropland. *Journal of Wildlife Management* 61:644–655.
- National Audubon Society. 2003. Christmas bird count results. Available at: <http://www.audubon.org/bird/cbc>
- Robbins, C. S., D. Bystrak, and P. H. Geissler. 1986. The breeding bird survey: its first 15 years, 1965–1979. U.S. Fish and Wildlife Service Resource Publications.
- Silveira, J. G. 1998. Avian use of vernal pools and implications for conservation practice. Pages 92–106 in C. W. Witham, E. T. Bauder, D. Belk, W. R. Ferren Jr., and R. Ornduff (eds.), *Ecology, conservation, and management of vernal pool ecosystems – proceedings from a 1996 conference*. Sacramento, CA: California Native Plant Society.
- Webb, B. 2003a. Birding hotspots of Placer County. Available at: www.geocites.com/placerbird/placercobirding.htm
- Webb, B. 2003b. Birdlist of Placer County. Available at: www.geocites.com/placerbird/PlacerCountyBirds.htm
- Williams, B. 1996. Seasonal checklist of the birds of Placer County. Sierra Foothills Audubon Society.

Personal Communications

Data on bird distribution and habitat relationships in the Phase 1 Area were gathered from the following birders/ornithologists:

Ted Beedy (Jones & Stokes)

Todd Easterla (916/638-7007)

Mike Miller (U.S. Biological Service) (530/756-1946)

Ed Pandolfino (Sierra Foothill Audubon Society) (916/652-7315)

S. Scheidel (Organic rice farmer – phone unlisted)

John Sterling (Jones & Stokes)

Bruce Webb (916/797-0535)

William Widdowson (Jones & Stokes)

Appendix A

**Comparison of 2002 Lincoln Christmas Bird
Count (CBC) Results with Results of
Adjacent Area CBCs 1994–2001**

Appendix A. Comparison of 2002 Lincoln Christmas Bird Count (CBC) Results with Results of Adjacent Area CBCs 1994–2001

Species	Lincoln 2002	Annual Average by Adjacent Area				Combined Average
		Auburn 1994–2001	Folsom 1994–2001	Marysville 2000–2001	Sacramento 1994–2001	
Common Loon	0	0	6	0	0	2
Pacific Loon	0	0	1	0	0	<1
Pied-billed Grebe	33	100	130	40	162	108
Horned Grebe	0	1	14	0	0	4
Red-necked Grebe	0	0	1	0	0	<1
Eared Grebe	8	0	42	46	6	24
Western Grebe	0	0	357	1	7	91
Clark's Grebe	0	0	23	0	0	6
American White Pelican	0	0	0	0	52	13
Double-crested Cormorant	4	14	88	31	525	165
American Bittern	3	0	0	6	8	4
Great Blue Heron	87	18	44	37	133	58
Great Egret	237	22	44	109	387	141
Snowy Egret	87	0	6	108	98	53
Cattle Egret	0	0	0	26	8	9
Green Heron	2	4	11	6	13	9
Black-crowned Night-Heron	57	0	1	17	1,201	305
White-faced Ibis	35	0	0	1979	26	501
Tundra Swan	170	4	15	10,328	2,603	3,238
Trumpeter Swan	0	0	2	0	0	1
Greater White-fronted Goose	9,928	6	19	4,984	14,116	4,781
Snow Goose	11,730	14	11	8,164	8,813	4,251
Ross' Goose	1,279	1	0	171	920	273
White Goose	4,200	0	0	116	0	29
Canada Goose	1,109	1,645	2,010	574	1,168	1,349
Wood Duck	104	181	124	121	212	160
Green-winged Teal	31	0	0	472	94	142
Mallard	663	588	1,075	2,768	7,342	2,943
Northern Pintail	161	7	76	27,383	26,749	13,554
Blue-winged Teal	0	0	0	0	4	1
Cinnamon Teal	40	1	3	6	568	145
Northern Shoveler	320	3	16	2,800	3,699	1,630
Gadwall	3	73	86	476	472	277
Eurasian Wigeon	0	0	0	2	1	1
American Wigeon	13	50	353	1,485	898	697
Canvasback	0	2	1	792	1,019	454

Species	Lincoln 2002	Annual Average by Adjacent Area				Combined Average
		Auburn 1994–2001	Folsom 1994–2001	Marysville 2000–2001	Sacramento 1994–2001	
Redhead	0	1	15	2	2	5
Ring-necked Duck	1	251	179	41	60	133
Greater Scaup	0	0	0	4	0	1
Lesser Scaup	6	13	1	212	35	65
Surf Scoter	0	0	1	0	0	<1
Common Goldeneye	61	35	188	55	163	110
Barrow's Goldeneye	1	0	2	1	0	1
Bufflehead	239	277	147	131	106	165
Hooded Merganser	2	28	22	4	1	14
Common Merganser	3	72	379	33	608	273
Ruddy Duck	165	170	264	265	3,163	966
Turkey Vulture	20	141	221	182	15	140
Osprey	0	0	1	2	0	1
White-tailed Kite	133	16	40	32	105	48
Bald Eagle	3	1	6	21	0	7
Northern Harrier	175	3	25	74	138	60
Sharp-shinned Hawk	6	5	10	4	13	8
Cooper's Hawk	7	8	13	8	22	13
Red-shouldered Hawk	70	48	45	33	45	43
Swainson's Hawk	1	0	0	0	0	<1
Red-tailed Hawk	221	80	163	162	296	175
Ferruginous Hawk	12	2	5	8	3	5
Rough-legged Hawk	6	0	4	2	4	3
Golden Eagle	2	2	1	1	0	1
American Kestrel	144	45	84	93	192	104
Merlin	5	0	3	3	3	2
Peregrine Falcon	0	0	0	2	0	1
Prairie Falcon	9	1	4	4	1	3
Ring-necked Pheasant	47	26	7	15	163	53
Wild Turkey	47	116	294	0	0	103
California Quail	25	365	234	116	105	205
Mountain Quail	0	1	0	0	0	<1
Black Rail	0	1	1	0	0	1
Virginia Rail	2	6	11	4	6	7
Sora	7	2	8	4	7	5
Common Moorhen	21	27	17	12	315	93
American Coot	112	781	697	1,437	4,593	1,877

Species	Lincoln 2002	Annual Average by Adjacent Area				Combined Average
		Auburn 1994–2001	Folsom 1994–2001	Marysville 2000–2001	Sacramento 1994–2001	
Sandhill Crane	0	0	0	0	79	20
Black-bellied Plover	9	0	0	3	33	9
Killdeer	375	161	211	327	592	323
Mountain Plover	0	0	0	0	10	3
Black-necked Stilt	0	0	0	1	31	8
American Avocet	0	0	0	0	71	18
Greater Yellowlegs	156	0	17	75	166	65
Lesser Yellowlegs	1	0	0	1	3	1
Spotted Sandpiper	0	0	7	11	3	5
Long-billed Curlew	188	0	0	3	1,251	314
Marbled Godwit	0	0	0	0	11	3
Western Sandpiper	0	0	1	1	41	11
Least Sandpiper	389	0	41	55	446	136
Dunlin	6,046	0	1	589	1,192	446
Ruff	0	0	0	0	1	<1
Long-billed Dowitcher	179	0	5	665	821	373
Common Snipe	61	19	20	52	98	47
Bonaparte's Gull	0	0	0	0	11	3
Mew Gull	0	0	2	1	10	3
Ring-billed Gull	436	2	721	380	1,551	664
California Gull	548	25	4,802	23	2,755	1,901
Herring Gull	8	1	810	64	712	397
Thayer's Gull	0	0	13	0	14	7
Western Gull	0	0	0	0	1	<1
Glaucous-winged Gull	0	0	6	0	11	4
Glaucous Gull	0	0	0	0	1	<1
gull species	459	7	21,930	12	2,247	6,049
Forster's Tern	0	0	0	0	9	2
Rock Dove	1,015	319	352	748	3,627	1,262
Band-tailed Pigeon	0	111	3	0	0	29
Mourning Dove	492	87	589	167	1,132	494
Barn Owl	13	1	4	18	19	11
Western Screech-Owl	0	1	1	0	0	1
Great Horned Owl	16	13	19	15	18	16
Northern Pygmy-Owl	0	1	0	0	0	<1
Burrowing Owl	1	0	3	1	16	5
Spotted Owl	0	1	0	0	0	<1

Species	Lincoln 2002	Annual Average by Adjacent Area				Combined Average
		Auburn 1994–2001	Folsom 1994–2001	Marysville 2000–2001	Sacramento 1994–2001	
Long-eared Owl	0	0	0	0	1	<1
Short-eared Owl	3	0	0	2	6	2
White-throated Swift	48	4	131	12	17	41
Anna's Hummingbird	20	41	157	33	72	76
Costa's Hummingbird	0	0	1	0	0	<1
Belted Kingfisher	18	23	33	39	56	38
Lewis' Woodpecker	18	10	21	18	0	12
Acorn Woodpecker	74	341	378	47	11	194
Red-breasted Sapsucker	1	11	10	7	9	9
Nuttall's Woodpecker	65	59	120	59	147	96
Downy Woodpecker	20	17	27	25	26	24
Hairy Woodpecker	0	2	2	1	0	1
Northern Flicker	158	28	184	281	0	123
Hammond's Flycatcher	0	0	0	1	0	<1
Black Phoebe	120	140	150	82	134	127
Say's Phoebe	42	7	19	8	9	11
Horned Lark	1,793	8	190	262	962	356
Tree Swallow	4	0	2	105	135	61
Violet-green Swallow	0	0	0	0	5	1
Steller's Jay	0	24	4	0	0	7
Western Scrub-Jay	171	400	459	173	418	363
Yellow-billed Magpie	705	314	172	442	1,270	550
American Crow	379	392	463	2,005	6,785	2,411
Common Raven	0	1	0	1	1	1
Bushtit	324	518	894	337	621	593
Red-breasted Nuthatch	0	1	0	1	1	1
White-breasted Nuthatch	73	116	159	32	15	81
Brown Creeper	2	3	1	8	3	4
Rock Wren	0	0	31	4	2	9
Canyon Wren	0	0	1	1	0	1
Bewick's Wren	14	38	108	42	32	55
House Wren	9	11	4	25	23	16
Winter Wren	0	1	0	1	1	1
Marsh Wren	38	16	7	72	83	45
American Dipper	0	3	0	0	0	1
Golden-crowned Kinglet	20	19	9	44	53	31
Ruby-crowned Kinglet	185	275	460	181	390	327

Species	Lincoln 2002	Annual Average by Adjacent Area				Combined Average
		Auburn 1994–2001	Folsom 1994–2001	Marysville 2000–2001	Sacramento 1994–2001	
Blue-gray Gnatcatcher	0	0	1	1	3	1
Western Bluebird	221	568	871	271	20	433
Mountain Bluebird	0	0	2	0	1	1
Hermit Thrush	20	49	79	45	53	57
American Robin	63	1,077	1,068	909	659	928
Varied Thrush	20	8	26	1	34	17
Wrentit	2	32	41	13	0	22
Northern Mockingbird	44	74	72	57	155	90
Sage Thrasher	0	0	0	1	0	<1
California Thrasher	0	4	11	1	0	4
American Pipit	527	120	273	231	1,746	593
Cedar Waxwing	159	225	630	554	953	591
Phainopepla	0	9	50	2	0	15
Loggerhead Shrike	41	0	6	10	76	23
European Starling	4,497	2,133	1576	967	9,470	3,537
Hutton's Vireo	2	7	13	4	1	6
Orange-crowned Warbler	2	1	2	34	33	18
Yellow-rumped Warbler	129	68	203	331	1,013	404
Black-throated Gray Warbler	0	0	0	2	3	1
Townsend's Warbler	0	0	0	1	0	<1
American Redstart	0	0	0	0	1	<1
Common Yellowthroat	2	0	0	2	8	3
Western Tanager	0	0	0	2	1	1
Spotted Towhee	88	306	445	114	179	261
California Towhee	22	117	229	66	21	108
Rufous-crowned Sparrow	0	19	44	4	0	17
Chipping Sparrow	0	0	1	0	0	<1
Vesper Sparrow	1	0	19	2	1	6
Lark Sparrow	153	122	220	75	8	106
Sage Sparrow	0	0	1	0	0	<1
Lark Bunting	0	0	0	0	1	<1
Savannah Sparrow	1,024	51	546	569	722	472
Fox Sparrow	93	33	50	56	77	54
Song Sparrow	76	80	59	127	118	96
Lincoln's Sparrow	70	43	46	123	117	82
White-throated Sparrow	1	1	1	1	2	1
Golden-crowned Sparrow	298	556	806	373	1,289	756

Species	Lincoln 2002	Annual Average by Adjacent Area				Combined Average
		Auburn 1994–2001	Folsom 1994–2001	Marysville 2000–2001	Sacramento 1994–2001	
White-crowned Sparrow	1,173	1,101	1,142	1,535	2,650	1,607
Harris' Sparrow	1	0	0	0	0	<1
Dark-eyed Junco	307	0	0	0	215	54
McCown's Longspur	1	0	0	0	0	<1
Lapland Longspur	3	0	0	2	0	1
Chestnut-collared Longspur	1	0	0	0	0	<1
Red-winged Blackbird	7,602	823	865	3,143	18,923	5,939
Tricolored Blackbird	305	138	25	105	1,428	424
Western Meadowlark	2,333	308	1,284	770	2,199	1,140
Yellow-headed Blackbird	1	0	0	1	9	3
Brewer's Blackbird	8,213	1,376	2,293	4,308	23,939	7,979
Great-tailed Grackle	0	0	1	0	0	<1
Brown-headed Cowbird	231	9	10	413	1295	432
blackbird species	22,495	311	410	5,145	70,120	18,997
Purple Finch	0	9	57	1	6	18
House Finch	1,280	193	778	464	2,541	994
Pine Siskin	0	17	27	12	29	21
Lesser Goldfinch	353	1,078	1,547	409	225	815
Lawrence's Goldfinch	0	0	8	0	2	3
American Goldfinch	798	146	769	275	1,582	693
House Sparrow	477	118	212	191	720	310

Appendix B

**Seasonal Status, Habitat, and Guilds
of Abundant Bird Species of the
Phase I Planning Area**

Appendix B. Seasonal Status, Habitat, and Guilds of Abundant Bird Species of the Phase I Planning Area

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Common Name	Scientific Name	Seasonal Status	Habitat	Guild
Great Blue Heron	<i>Ardea herodias</i>	Year-round Resident	Flooded Agriculture	Wader
Great Egret	<i>Ardea alba</i>	Year-round Resident	Flooded Agriculture	Wader
Snowy Egret	<i>Egretta thula</i>	Year-round Resident	Flooded Agriculture	Wader
White-faced Ibis	<i>Plegadis chihi</i>	Year-round Resident	Flooded Agriculture	Wader
Western Grebe	<i>Aechmophorus occidentalis</i>	Winter resident	Open Water	Waterbird
Greater White-fronted Goose	<i>Anser albifrons</i>	Winter resident	Flooded Agriculture	Waterbird
Snow Goose	<i>Chen caerulescens</i>	Winter resident	Flooded Agriculture	Waterbird
Ross's Goose	<i>Chen rossii</i>	Winter resident	Flooded Agriculture	Waterbird
Canada Goose	<i>Branta canadensis</i>	Year-round Resident	Flooded Agriculture	Waterbird
Tundra Swan	<i>Cygnus columbianus</i>	Winter resident	Flooded Agriculture	Waterbird
Wood Duck	<i>Aix sponsa</i>	Year-round Resident	Riparian	Waterbird
Green-winged Teal	<i>Anas crecca</i>	Winter resident	Flooded Agriculture	Waterbird
Gadwall	<i>Anas strepera</i>	Winter resident	Flooded Agriculture	Waterbird
American Wigeon	<i>Anas americana</i>	Winter resident	Flooded Agriculture	Waterbird
Mallard	<i>Anas platyrhynchos</i>	Year-round Resident	Flooded Agriculture	Waterbird
Northern Shoveler	<i>Anas clypeata</i>	Winter resident	Flooded Agriculture	Waterbird
Northern Pintail	<i>Anas acuta</i>	Winter resident	Flooded Agriculture	Waterbird
Bufflehead	<i>Bucephala albeola</i>	Winter resident	Open Water	Waterbird
Common Goldeneye	<i>Bucephala clangula</i>	Winter resident	Open Water	Waterbird
Ruddy Duck	<i>Oxyura jamaicensis</i>	Winter resident	Open Water	Waterbird
American Coot	<i>Fulica americana</i>	Year-round Resident	Flooded Agriculture	Waterbird
White-tailed Kite	<i>Elanus leucurus</i>	Year-round Resident	Grassland/Pasture	Raptor
Northern Harrier	<i>Circus cyaneus</i>	Year-round Resident	Grassland/Pasture	Raptor
Red-shouldered Hawk	<i>Buteo lineatus</i>	Year-round Resident	Riparian	Raptor
Red-tailed Hawk	<i>Buteo jamaicensis</i>	Year-round Resident	Grassland/Pasture	Raptor
American Kestrel	<i>Falco sparverius</i>	Year-round Resident	Grassland/Pasture	Raptor
Barn Owl	<i>Tyto alba</i>	Year-round Resident	Grassland/Pasture	Raptor
Great Horned Owl	<i>Bubo virginianus</i>	Year-round Resident	Grassland/Pasture	Raptor
Acorn Woodpecker	<i>Melanerpes formicivorus</i>	Year-round Resident	Riparian	Raptor
Killdeer	<i>Charadrius vociferus</i>	Year-round Resident	Flooded Agriculture	Shorebird
Greater Yellowlegs	<i>Tringa melanoleuca</i>	Winter resident	Flooded Agriculture	Shorebird
Long-billed Curlew	<i>Numenius americanus</i>	Winter resident	Grassland/Pasture	Shorebird
Least Sandpiper	<i>Calidris minutilla</i>	Winter resident	Flooded Agriculture	Shorebird
Dunlin	<i>Calidris alpina</i>	Winter resident	Flooded Agriculture	Shorebird
Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>	Winter resident	Flooded Agriculture	Shorebird
Wilson's Snipe	<i>Gallinago delicata</i>	Winter resident	Flooded Agriculture	Shorebird
Ring-billed Gull	<i>Larus delawarensis</i>	Winter resident	Flooded Agriculture	Gull
California Gull	<i>Larus californicus</i>	Winter resident	Flooded Agriculture	Gull
Herring Gull	<i>Larus argentatus</i>	Winter resident	Flooded Agriculture	Gull
Mourning Dove	<i>Zenaida macroura</i>	Year-round Resident	Grassland/Pasture	Arboreal Landbird
Nuttall's Woodpecker	<i>Picoides nuttalli</i>	Year-round Resident	Riparian	Arboreal Landbird
Northern Flicker	<i>Colaptes auratus</i>	Year-round Resident	Riparian	Arboreal Landbird
Yellow-billed Magpie	<i>Pica nuttalli</i>	Year-round Resident	Grassland/Pasture	Arboreal Landbird

Common Name	Scientific Name	Seasonal Status	Habitat	Guild
American Crow	<i>Corvus brachyrhynchos</i>	Year-round Resident	Grassland/Pasture	Arboreal Landbird
Oak Titmouse	<i>Baeolophus inornatus</i>	Year-round Resident	Riparian	Arboreal Landbird
Bushtit	<i>Psaltiriparus minimus</i>	Year-round Resident	Riparian	Arboreal Landbird
White-breasted Nuthatch	<i>Sitta carolinensis</i>	Year-round Resident	Riparian	Arboreal Landbird
Ruby-crowned Kinglet	<i>Regulus calendula</i>	Winter resident	Riparian	Arboreal Landbird
American Robin	<i>Turdus migratorius</i>	Year-round Resident	Grassland/Pasture	Arboreal Landbird
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Year-round Resident	Riparian	Arboreal Landbird
Yellow-rumped Warbler	<i>Dendroica coronata</i>	Winter resident	Riparian	Arboreal Landbird
House Finch	<i>Carpodacus mexicanus</i>	Year-round Resident	Riparian	Arboreal Landbird
Lesser Goldfinch	<i>Carduelis psaltria</i>	Year-round Resident	Riparian	Arboreal Landbird
American Goldfinch	<i>Carduelis tristis</i>	Year-round Resident	Riparian	Arboreal Landbird
Black Phoebe	<i>Sayornis nigricans</i>	Year-round Resident	Grassland/Pasture	Terrestrial Landbird
Western Scrub-Jay	<i>Aphelocoma californica</i>	Year-round Resident	Riparian	Terrestrial Landbird
Horned Lark	<i>Eremophila alpestris</i>	Year-round Resident	Grassland/Pasture	Terrestrial Landbird
Western Bluebird	<i>Sialia mexicana</i>	Year-round Resident	Grassland/Pasture	Terrestrial Landbird
American Pipit	<i>Anthus rubescens</i>	Winter resident	Grassland/Pasture	Terrestrial Landbird
Spotted Towhee	<i>Pipilo maculatus</i>	Year-round Resident	Grassland/Pasture	Terrestrial Landbird
Lark Sparrow	<i>Chondestes grammacus</i>	Year-round Resident	Grassland/Pasture	Terrestrial Landbird
Savannah Sparrow	<i>Passerculus sandwichensis</i>	Year-round Resident	Grassland/Pasture	Terrestrial Landbird
Fox Sparrow	<i>Passerella iliaca</i>	Winter resident	Riparian	Terrestrial Landbird
Song Sparrow	<i>Melospiza melodia</i>	Year-round Resident	Riparian	Terrestrial Landbird
Lincoln's Sparrow	<i>Melospiza lincolnii</i>	Winter resident	Riparian	Terrestrial Landbird
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	Winter resident	Grassland/Pasture	Terrestrial Landbird
Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>	Winter resident	Grassland/Pasture	Terrestrial Landbird
Dark-eyed Junco	<i>Junco hyemalis</i>	Winter resident	Riparian	Terrestrial Landbird
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Year-round Resident	Grassland/Pasture	Terrestrial Landbird
Tricolored Blackbird	<i>Agelaius tricolor</i>	Year-round Resident	Grassland/Pasture	Terrestrial Landbird
Western Meadowlark	<i>Sturnella neglecta</i>	Year-round Resident	Grassland/Pasture	Terrestrial Landbird
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	Year-round Resident	Grassland/Pasture	Terrestrial Landbird
Brown-headed Cowbird	<i>Molothrus ater</i>	Year-round Resident	Grassland/Pasture	Terrestrial Landbird

Appendix C

Important Concentration Areas for Wintering and Migratory Birds in the Phase I Planning Area

Appendix C. Important Concentration Areas for Wintering and Migratory Birds in the Phase I Planning Area

Code	Acres	Land Cover Type	Sites
GP1	10,948	Grassland/Pasture	Northwestern Grassland/Pasture Complex
GP2	942	Grassland/Pasture	Wise Road Grassland/Pasture Complex
GP3	750	Grassland/Pasture	Nicolaus Road Grassland/Pasture Complex
GP4	2,616	Grassland/Pasture	Moore Road Grassland/Pasture Complex
GP5	8,793	Grassland/Pasture	Roseville/Lincoln Grassland/Pasture Complex
GP6	8,580	Grassland/Pasture	Southwestern Grassland/Pasture Complex
FA1	177	Flooded Agriculture	County Line Flooded Agriculture
FA2	629	Flooded Agriculture	Dowd Road Flooded Agriculture
FA3	1,317	Flooded Agriculture	Coon Creek Flooded Agriculture
FA4	855	Flooded Agriculture	Wise Road Flooded Agriculture
FA5	517	Flooded Agriculture	Nicolaus Road Flooded Agriculture
FA6	1,084	Flooded Agriculture	East Catlett/Sunset Flooded Agriculture
FA7	433	Flooded Agriculture	Brewer Road North Flooded Agriculture
FA8	398	Flooded Agriculture	Brewer Road Central Flooded Agriculture
FA9	264	Flooded Agriculture	Phillip Road Flooded Agriculture
FA10	401	Flooded Agriculture	Brewer Road South Flooded Agriculture
FA/M Mix	1,115	Flooded Ag/Marsh mix	County Line Flooded Agriculture/Freshwater Marsh Complex
M1	170	Freshwater Marsh	Doty Ravine Marsh
M2	237	Freshwater Marsh	Markham Ravine East Marsh
M3	67	Freshwater Marsh	Markham Ravine West Marsh
OW1	582	Open Water	Camp Far West Reservoir
OW2	37	Open Water	Gladding Pond
OW3	133	Open Water	Old Lincoln Sewage Ponds
OW4	34	Open Water	New Lincoln Sewage Ponds
OW5	1,285	Open Water	Folsom Lake
R1	118	Riparian	Coon Creek Riparian
R2	203	Riparian	Auburn Ravine Riparian – West Lincoln
R3	201	Riparian	Antelope Creek/Miners Ravine Riparian – East Roseville
R4	84	Riparian	Dry Creek Riparian – Southwest Roseville
Landfill	N/A	Landfill	Western Placer Waste Management Authority